

Two New Species of *Oxypetalum* (Asclepiadoideae, Apocynaceae) from Brazil

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ABSTRACT. *Oxypetalum habrogynum* and *O. helios*, two new species of Asclepiadoideae, Apocynaceae, are described and illustrated. *Oxypetalum habrogynum* has the membrane of the caudicles of the pollinarium concave and not convex or plane as in other species. *Oxypetalum helios* has the segment of the corona 3-lobed, lacking an adaxial appendage, and the gynostegium apex is filiform and bifid at its distal third. These species are endemic to the National Park of the Serra da Canastra in the state of Minas Gerais, Brazil.

Key words: Apocynaceae, Asclepiadoideae, Brazil, *Oxypetalum*.

Oxypetalum R. Brown (Asclepiadoideae, Apocynaceae) is a Neotropical genus comprising about 100 species, occurring in a variety of habitats, principally in open areas like savannah, grassland, and forest edges. Brazil is the center of diversity for the genus, with a majority of species found within the state of Minas Gerais. During the preparation of the treatment for the flora of Serra da Canastra National Park, Minas Gerais, in southeastern Brazil (Fig. 1), two new species of *Oxypetalum*, *O. habrogynum* and *O. helios*, were recognized and are here described and illustrated.

Oxypetalum habrogynum Farinaccio, sp. nov.

TYPE: Brazil. Minas Gerais: São Roque de Minas, Parque Nacional da Serra da Canastra, estrada Sacramento–São Roque de Minas, capões após cerradão, 21 Mar. 1998 (fl), M. A. Farinaccio, P. T. Sano, A. C. Araújo, D. V. Arce & P. Fiaschi 143 (holotype, SPF; isotypes, F, MO). Figure 2.

Ab omnibus speciebus generis membrana pollinarii concava optime distinctum. Species quam maxime affinis *O. pachygyno*, quae tamem characteribus inflorescentiae florumque differt.

Vines, stems tomentose. *Leaves* opposite, patent; petiole 1–2.2 cm long, somewhat sulcate, tomentose; blades 3.5–8(–11) × 2–3.2(–6) cm, oblong to ovate-oblong, discolorous, puberulous to pubescent, chartaceous, brochidodromous, apex rounded to

acute, mucronate, base cordate, with 2 to 5 collectors at base of adaxial side. *Partial inflorescence* extra-axillary, alternate, 6- to 11-flowered, erect; peduncles 0.5–1.7 cm long, tomentose, bracts 1.5 × 0.5 mm, lanceolate, adaxial surface hirsute, abaxial surface glabrous, with collectors at the base; pedicels 2–6 mm long, pubescent to tomentose. *Calyx* green to brown, divided almost to base, lobes 3–4.3 × 1–1.5 mm, lanceolate, apex acute, abaxial surface pubescent to tomentose, adaxial glabrous, 1 or 2 collectors below each sinus. *Corolla* abaxial surface dark purple to green, pubescent, adaxial white, cream or lightly pink, glabrous to puberulous, tube campanulate, 2–2.5 mm long, lobes 3.6–5.5 × 2–2.1 mm, lanceolate, reflexed, margins hyaline, apex acute. *Corona* white, lobes 2.4–3.2 × 1–1.7 mm, oblong to obovate, imbricate, the adaxial surface with carunculate excrescences and a central tooth-like appendage, apex subtruncate to truncate, crenate. *Gynostegium* rostrate, white to lightly pink, 1.5 mm long, 1.1 mm diam., sessile, apex 2.5–4.3 mm long, conical, bifid from the distal third. *Anthers* 0.7–1.5 × 0.6–1 mm, rectangular to subquadrangular, terminal appendage 0.8–1 × 0.8–0.9 mm, obscured by corona, ovate, apex acute, wings longer than or equal to dorsum, straight. *Corpusculum* 0.43–0.53 mm long, 0.11–0.13 mm wide, lanceolate, thick-gibbous, apex acute, caudicles 0.13–0.19 mm long, flattened, broad, translucent, with horny teeth 0.21–0.29 mm, pollinia 0.38–0.42 × 0.11–0.14 mm, oblong. *Follicle* black when senescent, 6 × 0.5 cm. *Seeds* unknown.

Oxypetalum habrogynum is distinct from the other species in the genus by the membrane of the caudicles of the pollinarium, which is concave and not convex or plane as in other species. It is very closely related to *O. pachygynum* Decaisne, mainly by vegetative characteristics, but may be distinguished by characteristics of the partial inflorescence and of the flowers (Table 1).

This species is endemic to the Serra da Canastra National Park. It occurs in humid soil of grasslands, around the borders of small forest tracts (“capões”) and gallery forests. It has been collected in flower

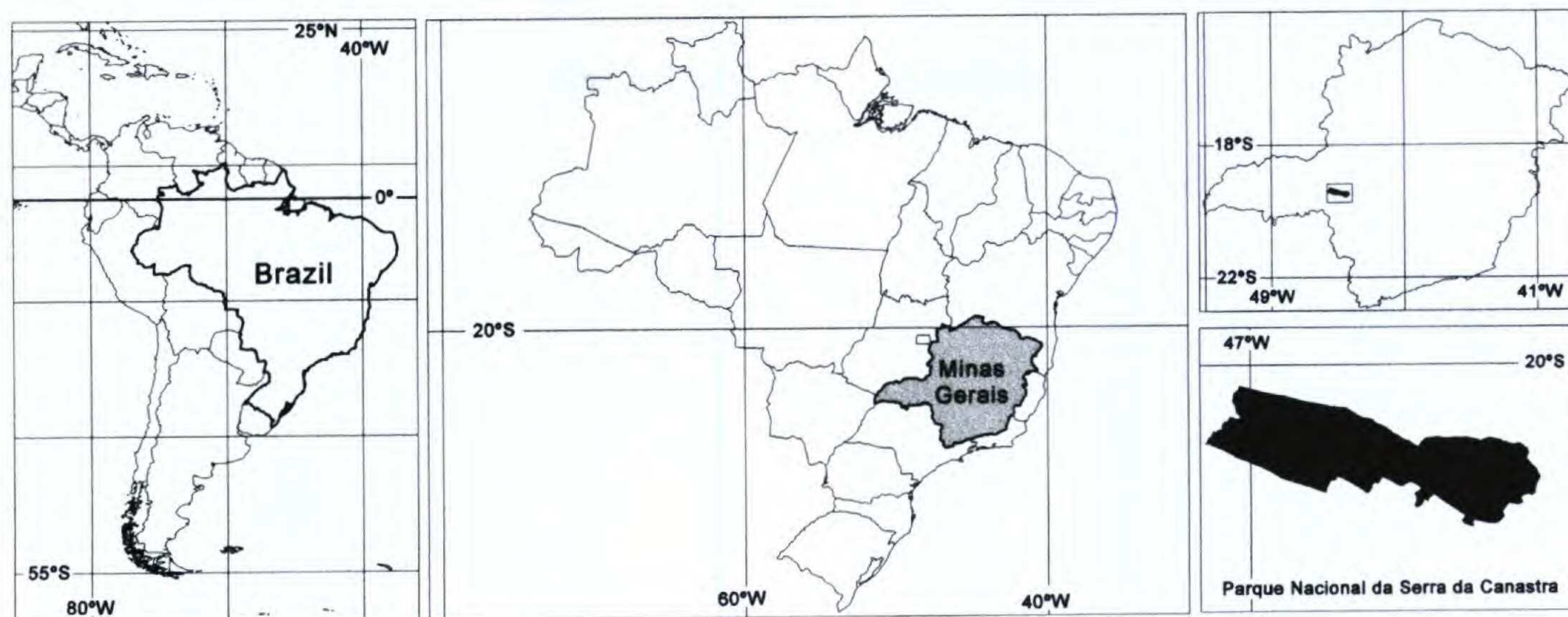


Figure 1. Map showing the Serra da Canastra National Park, Minas Gerais State, Brazil.

in March, July, and October, and with senescent fruits in July. The specific epithet is an allusion to its gynostegium, more delicate in comparison to the gynostegium of *O. pachygynum*.

Paratypes. BRAZIL. **Minas Gerais:** São Roque de Minas, Parque Nacional da Serra da Canastra, estrada para Sacramento, próximo ao Córrego dos Passageiros, 20 Mar. 1995 (fl), *J. N. Nakajima et al.* 892 (HUFU); Córrego do Bárbaro, 19 Oct. 1997 (fl), *J. N. Nakajima et al.* 2972 (HUFU); estrada Sacramento–São Roque de Minas, Três Matinhas, 8 July 1999 (fl, fr), *M. A. Farinaccio et al.* 352 (SPF).

Oxypetalum helios Farinaccio, sp. nov. TYPE: Brazil. Minas Gerais: São Roque de Minas, Parque Nacional da Serra da Canastra, Córrego do Quilombo, Três Matinhas, 8 July 1999 (fl, fr), *M. A. Farinaccio, A. A. Araújo & F. P. Gomes* 351 (holotype, SPF; isotypes, HRCB, K, MBM, MO, NY, RB). Figure 3.

Inter affines segmentis coronae 3-lobatis adaxiale exappendiculatis et apice gynostegii filiformi bifidoque diagnosticatur.

Vines, stems pubescent. *Leaves* opposite, patent; petiole 0.7–1.3 cm, smooth, pubescent; blades 4.5–8.5 × 1.7–3 cm, elliptic to lanceolate, sometimes ovate, discolorous, subglabrate, minutely hairy along the midvein and margins, chartaceous, with brochidodromous venation, apex acute to obtuse, mucronate to apiculate, base cordate with 2 collectors at base of adaxial side. *Partial inflorescence* extra-axillary, alternate, 2- to 9- (frequently 3)-flowered, erect; peduncle 1.6–2.2 mm long, pubescent, bracts 2–3.3 × 0.5–0.7 mm, linear or oblong, puberulous; pedicels 1–1.8 cm long, pubescent. *Calyx* yellow to green, dark purple in the proximal region, divided almost to base, lobes 2.5–6 × 0.5–1 mm, lanceolate, apex acute, puberulous, 2 or 3 collectors

below each sinus. *Corolla* cream to yellow, campanulate, tube 2.5–3 cm long, puberulous, lobes 1–1.3 × 0.1–0.2 cm, linear to narrowly oblong, patent to reflexed, twisted, abaxial surface subglabrate, adaxial surface pubescent, margins hyaline, apex acute. *Corona* light green to cream, lobes 2–3 × 1.5–1.8 mm, oblong, 3-lobed, apex truncate, curved. *Gynostegium* cream, 2.5 mm long, 0.8–1 mm diam., sessile, apex cream to lightly pink, 3–4 mm long, filiform, bifid from distal third. *Anthers* 0.72–1 × 0.5–0.72 mm, rectangular, terminal appendage 1.1–1.5 × 0.5–0.72 mm, oblong, apex acute, emarginate, wings straight, longer than the dorsum. *Corpusculum* 0.96–1.12 × 0.14–0.18 mm, oblong, laminar, apex truncate, caudicles 0.11–0.16 mm long, flattened, broad, translucent, with horny teeth 0.19–0.24 mm long, pollinia 0.27–0.32 × 0.11–0.13 mm, oblong. *Follicle* green to brown, 5.5–8.5 × 1.5–2.5 cm, ovate, striate, puberulous. *Seeds* 6–7 × 3–3.5 mm, ovate, verrucose.

Oxypetalum helios may be included in the *O. insigne* (Decaisne) Malme complex, principally on the characteristics of habit (climbing plants) and morphology of the pollinarium, which has the laminar corpusculum longer than pollinia. It is very closely related to *O. glabrum* (Decaisne) Malme. Both plants are sparsely pubescent, and they share a similar leaf morphology and flower size. However, *O. helios* is immediately distinguished from all species of that complex by the segment of the corona 3-lobed, lacking an adaxial appendage, and principally by the gynostegium apex, which is filiform and bifid at its distal third.

This species is endemic to the Serra da Canastra National Park. It occurs in humid soil around the borders of small forest tracts (“capões”). It has been collected in flower and fruit in July, September, and

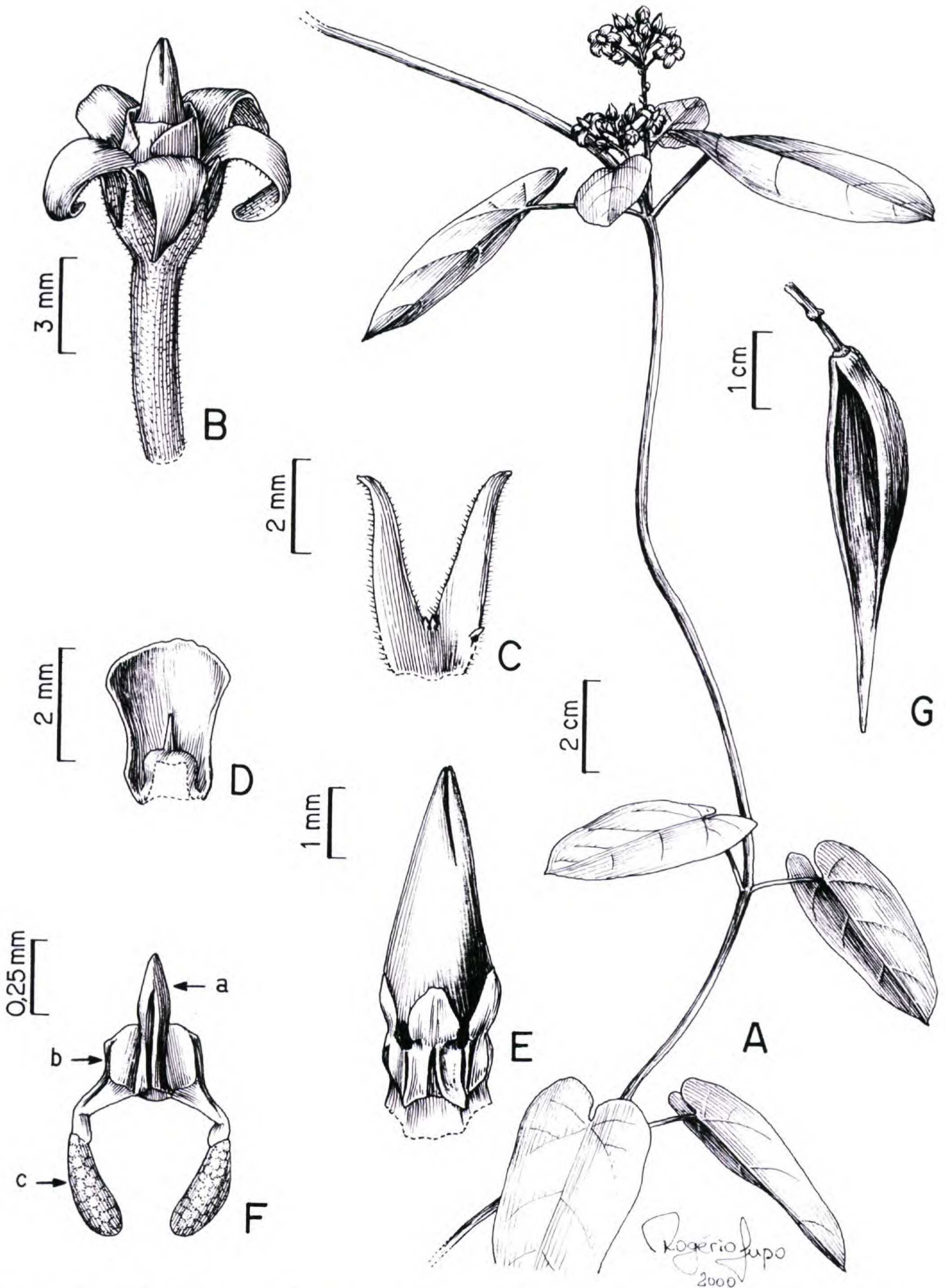


Figure 2. *Oxypetalum habrogynum* Farinaccio. —A. Flowering branch. —B. Flower. —C. Adaxial surface of part of the calyx showing colleters. —D. Adaxial surface of corona lobe. —E. Gynostegium. —F. Pollinarium: (a) corpusculum, (b) caudicles, (c) pollinium; (a) + (b) = translator. —G. Senescent fruit. (A–F from the holotype, *Farinaccio et al.* 143; G from *Farinaccio et al.* 352.)

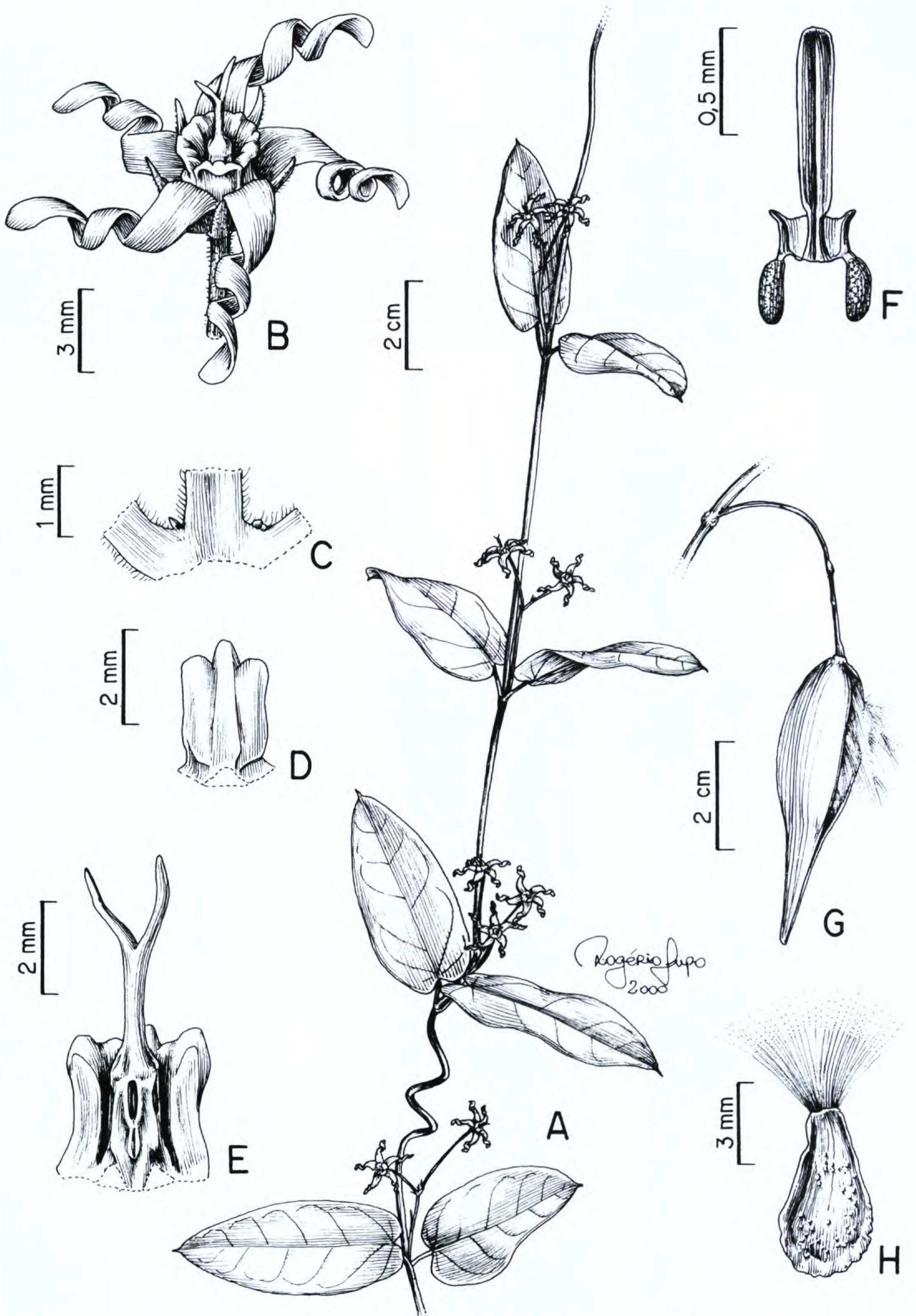


Figure 3. *Oxypetalum helios* Farinaccio. —A. Flowering branch. —B. Flower. —C. Adaxial surface of part of the calyx showing colleters. —D. Adaxial surface of corona lobe. —E. Corona with lobe removed showing gynostegium. —F. Pollinarium. —G. Fruit. —H. Seed. (From the holotype, Farinaccio et al. 351.)

Table 1. Differential characters between *O. habrogynum* and *O. pachygynum*.

| Characters | Species | |
|--|-----------------------------------|------------------------------|
| | <i>O. habrogynum</i> | <i>O. pachygynum</i> |
| Flower number in the partial inflorescence | 6–11 | 2–5 |
| Number of colleters in the calyx sinus | 1–2 | 4 |
| Color of the corolla | white, cream, or slightly pink | green to dark purple |
| Tube length | 2–2.5 mm | 2.5–4 mm |
| Corolla lobe length | 3.6–5.5 mm | 6.5–10.2 mm |
| Abaxial face of the corolla lobes | glabrous to puberulous | gray-sericeous |
| Corona color | white | green cream |
| Gynostegium color | white to slightly pink | dark purple |
| Gynostegium size | 1.5 × 1.1 mm | 2–3 × 1.7–2 mm |
| Gynostegium apical apex length | 2.5–4.3 mm | 4–6 mm |
| Anther wings | entire | dentate |
| Terminal anther appendage | 0.8–1 mm, shorter than the corona | 2.2 mm, exceeding the corona |

October. The specific epithet is an allusion to its yellow flowers, which with their very conspicuous, extremely narrow twisted lobes resemble the sun.

Paratypes. BRAZIL. **Minas Gerais:** São Roque de Minas, Parque Nacional da Serra da Canastra, Córrego do Quilombo, 26 Sep. 1995 (fl, fr), *R. Romero et al.* 2803 (HUFU, SPF); 20°10'17"S, 46°39'52"W, 14 July 1997 (fl, fr), *J. A. Lombardi* 1862 (BHCB); Córrego do Quilombo, Três Matinhas, 15 Oct. 1997 (fl, fr), *J. N. Nakajima et al.* 2869 (HUFU, SPF).

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